

NANOPOROUS STRUCTURES PRODUCED FROM SELF-ASSEMBLING MOLECULES

ABSTRACT OF THE DISCLOSURE

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Methods for producing nanoporous structures are provided. In the subject methods, two or more, e.g., first and second, different types of self-assembling molecules are combined with each other under conditions sufficient to produce a composite ordered structure from the two or types of molecules. A feature of two or more molecules that are combined in this first step is that a portion of the molecules include cross-linking functionalities not found in the other portion of the molecules. The resultant self-assembled composite structure is then subjected to conditions sufficient for cross-linking of the portion of the molecules that includes the cross-linking functionalities to produce a stabilized composite structure.

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Finally, the remaining non-cross-linked molecules of the stabilized composite structure are separated from the stabilized composite structure to produce a nanoporous structure. Also provided are nanoporous structures produced according to the subject methods, articles of manufacture that include the same, as well as kits for use in practicing the subject methods.